REMARKS

STATUS OF THE CLAIMS

Claims 1-26 are pending in the application.

Claims 1-4, 6-8, 10, 11, 13-18, 20-22, 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Robertson et al. (U.S. 6,486,895), Mackinlay (U.S. 6,088,032) and Robertson (US 5,295,243).

Claims 5, 9, 12, 19, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Robertson '895, Mackinlay, Robertson '243, and Gounares.

According to the foregoing, the claims are amended, new claims are added, and thus, the pending claims remain for reconsideration, which is respectfully requested.

REJECTIONS

Claims 1-26 are pending.

The new cited document, Robertson et al. (US Patent No. 5,295,243) discloses techniques for presenting a three-dimensional node-link structure with a hierarchical geometry within which the relative positions of nodes and links can change without losing the perceived object constancy of the nodes or links or of the structure as a whole. When a user selects a part of the structure, the selected part can be brought to a primary viewing position by changing or rotating the geometry of the structure without loss of object constancy. (Col. 1, Lines 48-64) The features of the invention are useful in providing a display representing a large data structure, such as a Unix directory or an artificial intelligence knowledge structure, which has many more items than can be presented in two dimensions on a screen (Col. 2, Lines 40-44).

However, Robertson fails to disclose displaying a particular linked content item of the information object displayed in the virtual space, according to a geometric relation of the particular linked content item to the visual field in the virtual space, as called for in amended claims of the present invention.

INDEPENDENT CLAIMS

Claims 1, 15, 25 and 26 are independent, which are rejected under 35 USC 103(a) as being unpatentable over Robertson '895, Mackinlay, and Robertson '243. Robertson '243 is newly cited, and, thus, newly relied upon.

The Office Action newly relies upon Robertson '243 for allegedly disclosing the claimed displaying according to a geometric relation between said visual field and said particular linked content item of the information object. According to the foregoing, the independent claims, using claim 1 as an example, are amended for clarity by providing "first means for causing said plurality of intermediate data generating means to ***generate the respective pieces of intermediate data for displaying a particular linked content item of the information object, displayed in the virtual space, according to a geometric relation ~~between~~ of the particular linked content item to said visual field in the virtual space*** ~~and said particular linked content item of the information object~~." For example, the present application page 11, lines 14-20 and page 17, lines 17-29 and FIG. 13 support the claims. A prima facie case of obviousness based upon Robertson '895, Mackinlay, and Robertson '243 cannot be established, because the newly relied upon Robertson '243 column 1, lines 48 to column 2, line 27 and FIG. 1 only discusses presenting a three-dimensional node-link structure with a hierarchical geometry using conic substructures that can be rotated to change the relative positions of the nodes. But Robertson '243 clearly cannot render obvious the claimed embodiment by failing to disclose, or suggest to one skilled in the art to be combined with Robertson '895 and Mackinlay and modified to achieve, the claimed "***displaying a particular linked content item of the information object displayed in the virtual space, according to a geometric relation ~~between~~ of the particular linked content item to said visual field in the virtual space***," because the Office Action acknowledges that Robertson '895 does not disclose this claimed feature and relies upon Mackinlay and Robertson '243 to meet this claimed features.

The new cited document, Robertson et al. (US Patent No_ 5,295,243) discloses techniques for presenting a three-dimensional node-link structure with a hierarchical geometry within which the relative positions of nodes and links can change without losing the perceived object constancy of the nodes or links or of the structure as a whole. When a user selects a part of the structure, the selected part can be brought to a primary viewing position by changing or rotating the geometry of the structure without loss of object constancy (Col. 1, lines 48-64). The features of Robertson '43 are useful in providing a display representing a large data structure, such as a Unix directory or an artificial intelligence knowledge structure, which has many more items than can be presented in two dimensions on a screen (Col. 2, lines 40-44). However, Robertson '43 fails to disclose or suggest the claimed displaying a particular linked content item of the information object displayed in the virtual space, "according to a geometric relation of the

particular linked content item to the visual field in the virtual space," as called for in amended claimed embodiments.

Robertson '243 only discusses in FIGS. 1-6 and column 1, lines 48 to column 2, lines 27, which is relied upon by the Office Action, a hierarchical geometry representing a node-link structure and changing the geometry of the structure without loss of object constancy. However, a hierarchical geometry representation using a conic substructure differs from "***displaying a particular linked content item ... according to a geometric relation ~~between~~ of the particular linked content item to said visual field in the virtual space***," because Robertson '243 is silent on displaying its conic structure according to any "***geometric relation ... to said visual field in the virtual space***." Robertson '243 only discusses orienting the conic substructures for presentation by discussing "if each level of the hierarchy has a fixed length at an appropriate orientation, for example, the conic substructures can all rotate independently of each other without changing the perceived object constancy of the nodes and links," which clearly differs from displaying the conic substructures according to any "***visual field in the virtual space***."

Further, Mackinlay column 11, lines 19-30, which is relied upon by the Office Action, discuss "creation of piles with the angle from the center chosen randomly is illustrated in FIGS. 10-12." Mackinlay discusses displaying a document pile representation by placing a document on top of another document using coordinates (ϕ, x) (an angle ϕ and a radius x), so that other documents do not become blocked from view when displayed (column 11, lines 31-40). However, Mackinlay's document pile representation differs from the claim language "***displaying a particular linked content item of the information object displayed in the virtual space, according to a geometric relation ~~between~~ of the particular linked content item to said visual field in the virtual space*** ~~and said particular linked content item of the information object~~," because Mackinlay's document pile representation is only based upon display coordinates of (ϕ, x) for a document (see Mackinlay FIGS. 10-12) and Mackinlay uses the radius x constant to offset another display coordinates of another document, which does not involve any type of a geometric relation of a linked content of the document to a visual field in a virtual space. In other words, Mackinlay's document pile representation is not based upon "***a geometric relation ~~between~~ of the particular linked content item to said visual field in the virtual space***," because Mackinlay column 11, lines 21-40 is silent on using the claimed "linked

content" for controlling displaying of the document pile representation. Mackinaly only uses a display coordinate to display the document pile without regard to the claimed "***a geometric relation ~~between~~ of the particular linked content item to said visual field in the virtual space***."

Further, the Office Action relies on Mackinlay column 12, lines 56-61, which discuss the FIG. 15 cone tree 1501 and the various levels of the walk. Mackinlay's cone tree 1501 shows two levels 1510 and 1511 and "level 1511 is the results of a walk along the links contained in linked page 1514." However, Mackinlay column 12, lines 20-62 discuss selecting a starting page 1509 and displaying a cone tree representation 1510, 1511 of linked pages in the starting page 1509 as 'walking' to another level of linked pages, which differs from the language of the claims "***displaying a particular linked content item of the information object displayed in the virtual space, according to a geometric relation ~~between~~ of the particular linked content item to said visual field in the virtual space*** ~~and said particular linked content item of the information object~~," since Mackinlay navigates the linked pages using a cone tree. In other words, Mackinlay is silent on using the claimed "***displaying a particular linked content item ... according to a geometric relation ~~between~~ of the particular linked content item to said visual field in the virtual space***" to control displaying other linked pages of a document page, because Mackinlay only uses a document page selection to create the cone tree of linked pages. The claimed "***a geometric relation ~~between~~ of the particular linked content item to said visual field in the virtual space***" clearly differs from Mackinlay's 'cone tree.'

In view of the remarks, withdrawal of the rejection of pending claims and allowance of pending claims is respectfully requested.

NEW DEPENDENT CLAIM 27

Further, in contrast to Robertson '895, Mackinlay, and Robertson '243, the claimed embodiment as recited in new dependent claim 27 provides "wherein ***the geometric relation of the particular linked content item to the visual field in the virtual space is*** a relative relation comprising one or more of ***position, orientation, or scale ratio of the particular linked content item to the visual field in the virtual space***." For example, the present Application page 11, lines 14-20 supports the claim amendments.

Allowance of dependent claim 27 is respectfully requested.

DEPENDENT CLAIMS 8, 9, 10, 11, and 13

Dependent claims 8, 10, 11, 13 are rejected under 35 USC 103(a) as being unpatentable over Robertson '895, Mackinlay and Robertson '243. Dependent claim 9 is rejected under 35 USC 103(a) as being unpatentable over Robertson '895, Mackinlay, Gounares, and Robertson '243.

A combined system of Robertson '895, Mackinlay, Gounares, and Robertson '243 fails to disclose or suggest to one skilled in the art the language of dependent claims 8, 9, 10, 11, and 13. Regarding "assigning a display priority to each ... linked content item of an information object," the Office Action, for example in rejecting claim 8, relies on Robertson's sequential page display. However, dependent claims 8, 9, 11 and 13, using claim 8 as an example, are amended to clarify that the display priority of a particular linked content item of an information object changes based upon "***the geometric relation ~~between~~of the particular linked content item to said visual field in the virtual space~~and said particular linked content item of the information object~~***" (dependent claim 8).

> 8. (CURRENTLY AMENDED) The information processing apparatus according to claim 1 further comprising:
>
> means for assigning a display priority to each of a plurality of linked content items of an information object ***and changing the display priority of a particular linked content item of an information object based upon the geometric relation ~~between~~of the particular linked content item to said visual field in the virtual space~~and said particular linked content item of the information object~~***;
>
> said first means comparing said display priority of a particular linked content item of an information object with a predetermined threshold to thereby determine whether to generate a piece of intermediate data of said particular linked content item of the information object;
>
> said second means comparing said display priority of said particular linked content item of the information object with a predetermined threshold to thereby determine whether to generate a display image of said particular linked content item of the information object.

For example, the present Application page 32, lines 1-12 support the claim amendments.

In view of the claim amendments and remarks, withdrawal of the rejection of dependent claims 8, 9, 11 and 13 and allowance of dependent claims 8, 9, 11 and 13 is respectfully requested. Other dependent claims recite either patentably distinguishing features of their own or are at least patentably distinguishing due to their dependencies from the independent claims.

CONCLUSION

If there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,
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